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REMARKS/ARGUMENTS

Reconsideration is requested in view of the following remarks. Claim 1 has been editorially revised. Support for the editorial revision of claim 1 can be found in Figures 3-4. Claim 4 has been cancelled. Claims 1-3 and 5-15 remain under consideration in the present application.

Claim Rejections – 35 USC §103

Claims 1, 3-4 and 7-10 are rejected under 35 U.S.C. §103(a) as unpatentable over Heidrich (US20020149282) in view of Mischler et al. (US 4,255,684). Applicants respectfully traverse this rejection.

Claim 1 is directed to a method for fabricating a machine stator. The method requires (a) positioning pre-wound stator windings around respective teeth of a laminated stator yoke, each tooth having a first end and a second end, wherein each tooth extends radially inward toward the center of the stator such that the first end is closer to the center of the stator than the second end; and

(b) directly molding composite tooth tips into contact with the first end of respective teeth of the laminated stator yoke, such that each composite tooth tip does not extend in a radially outward direction toward the outer periphery of the stator yoke between the first end and the second end of its corresponding tooth, and further such that a substantially flat surface contact devoid of recesses between each composite tooth tip and its corresponding tooth solely provides fixation of the composite tooth tip.

Heidrich discloses a stator pole shoe 15 having a groove 18 on an exterior interface surface for encapsulating the exposed end of a corresponding stator pole tooth 7. The stator pole shoe therefore extends in a radially outward direction toward the outer periphery of the stator yoke 3 between the exposed inner (first) end and the unexposed outer (second) end of its corresponding tooth allowing the groove 18 to aid fixation of the tooth tip.

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Mischler et al. disclose a laminated motor stator structure with molded composite pole pieces. Each molded composite pole piece interface surface disclosed by Mischler et al. extends radially outward toward the outer periphery of the stator yoke member between the innermost tip of each leg and the outmost tip portion of each leg to form a recess therein for encapsulating the exposed portion of a corresponding stator tooth.

In contradistinction, claim 1 requires directly molding composite tooth tips into contact with corresponding teeth of the laminated stator yoke such that each composite tooth tip does not extend between the inner first end and the outer second end of its corresponding tooth, and further such that a substantially flat surface contact devoid of recesses between each composite tooth tip and its corresponding tooth solely provides fixation of the composite tooth tip.

The claimed composite tooth tips therefore do not extend in a radially outward direction toward the outer periphery of the stator yoke between the first (inner exposed) end and the second (outer unexposed) end of its corresponding tooth as disclosed by both Heidrich and Mischler et al. Further, a substantially flat surface contact devoid of recesses between each composite tooth tip and its corresponding tooth solely provides fixation of the composite tooth tip as required by claim 1. The tooth tips disclosed by both Heidrich and Mischler et al. have recesses for receiving and fixing corresponding teeth.

Nowhere does Heidrich alone or in combination with Mischler et al. teach or suggest composite tooth tips that contact respective teeth of a laminated stator yoke subsequent to positioning pre-wound stator windings around the respective teeth of the laminated stator yoke such that each composite tooth tip does not extend between the first end and the second end of its corresponding tooth, as required by claim 1, and such as seen in particular embodiments illustrated in Figures 3-4, 7-8 and 10-11. Further, Heidrich alone or in combination with Mischler et al. nowhere teaches or suggests that a substantially flat surface contact devoid of recesses between each composite tooth tip and

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its corresponding tooth solely provides fixation of the composite tooth tip, as also recited in claim 1.

For at least these reasons, claim 1 is patentable over Heidrich alone or in combination with Mischler et al. Claims 3 and 7-10 are patentable since they depend ultimately from claim 1 that is allowable. Claim 4 has been canceled rendering this rejection moot.

Applicants do not concede the correctness of the rejection or the relevance of the cited art as applied to the remaining claim features.

Claim 2 is rejected under 35 U.S.C. §103(a) as unpatentable over Heidrich and Mischler et al. in view of Applicants' admitted prior art (APA). Applicants respectfully traverse this rejection for at least the same reasons discussed above regarding the rejections of claims 1, 3-4 and 7-10.

The admitted prior art neither discloses nor suggests positioning pre-wound stator windings around respective teeth of a laminated stator yoke, each tooth having a first end and a second end, wherein each tooth extends radially inward toward the center of the stator such that the first end is closer to the center of the stator than the second end; and directly molding composite tooth tips into contact with the first end of respective teeth of the laminated stator yoke, such that each composite tooth tip does not extend in a radially outward direction toward the outer periphery of the stator yoke between the first end and the second end of its corresponding tooth, and further such that a substantially flat surface contact devoid of recesses between each composite tooth tip and its corresponding tooth solely provides fixation of the composite tooth tip.

Claim 2 is therefore patentable since it depends from claim 1 that is allowable. Applicants do not concede the correctness of the rejection or the relevance of the cited art as applied to the remaining claim features.

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Claims 5 and 6 are rejected under 35 U.S.C. §103(a) as unpatentable over Heidrich and Mischler et al. in view of Crabb (US 3,862,492). Applicants respectfully traverse this rejection for at least the same reasons discussed above regarding the rejections of claims 1, 3-4 and 7-10.

Crabb does not remedy the deficiencies of Heidrich alone or in combination with Mischler et al. Crabb does not teach or suggest a method for fabricating a machine stator requiring positioning pre-wound stator windings around respective teeth of a laminated stator yoke, each tooth having a first end and a second end, wherein each tooth extends radially inward toward the center of the stator such that the first end is closer to the center of the stator than the second end; and directly molding composite tooth tips into contact with the first end of respective teeth of the laminated stator yoke, such that each composite tooth tip does not extend in a radially outward direction toward the outer periphery of the stator yoke between the first end and the second end of its corresponding tooth, and further such that a substantially flat surface contact devoid of recesses between each composite tooth tip and its corresponding tooth solely provides fixation of the composite tooth tip.

For at least these reasons, claims 5 and 6 are patentable over the cited art, alone or in combination, since claims 5 and 6 depend ultimately from claim 1 that is allowable. Applicants do not concede the correctness of the rejection or the relevance of the cited art as applied to the remaining claim features.

Claims 11-15 are rejected under 35 U.S.C. §103(a) as unpatentable over Heidrich and Mischler et al. in view of Kliman (US 6,274,962), with "Compression Molding" being used as extrinsic evidence. Applicants respectfully traverse this rejection for at least the same reasons discussed above regarding the rejections of claims 1, 3-4 and 7-10.

Further, the inventions of Heidrich and Mischler et al. each requires a tooth tip that encapsulates an exposed portion of a corresponding stator tooth to aid fixation of the

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tooth tip. The invention of Kliman relies on plastic strips between the tooth tips to aid fixation of the tooth tip.

In contradistinction, claim 1 as stated above, requires that a substantially flat surface contact devoid of recesses between each composite tooth tip and its corresponding tooth solely provides fixation of the composite tooth tip. Thus, it is only the substantially flat surface between the composite tooth tip and the corresponding tooth that provides the fixation against movement between the tooth tip and its corresponding tooth.

For at least these reasons, claims 11-15 are patentable over Heidrich alone or in combination with Mischler et al., Kliman and "Compression Molding", since claims 11-15 depend ultimately from claim 1 that is allowable. Applicants do not concede the correctness of the rejection or the relevance of the cited art as applied to the remaining claim features.

Further, regarding claim 13, the rejection improperly uses the claim itself as an argument for obviousness. The rejection asserts that since compression molding is employed in the process, then it is obvious to use the compression molding to compress both the tooth tip and the windings simultaneously as claimed. This is not true since most of the embodiments described in the specification do not compress the windings substantially simultaneously with compression of the tooth tip as claimed and as described for one embodiment on page 6, line 25 to page 7, line 3 of the specification. The rejection improperly uses the Applicants' own specification as a template for determining obviousness. Applicants do not concede the correctness of the rejection.

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Favorable reconsideration in the form of a Notice of Allowance is requested. If the Examiner believes a telephone conference would advance the prosecution of this application, the Examiner is invited to telephone the undersigned at (507) 351-4450.

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PATENT TRADEMARK OFFICE

Respectfully submitted,

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